

Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 3 and 4. These sheets, which include Figures 3 and 4, replace the original sheets including Figure 3 and Figure 4.

Attachment: 2 Annotated Sheets
2 Replacement Sheets

REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicant respectfully submits that the pending claims are not anticipated under 35 U.S.C. § 102 or rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicant respectfully requests that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.**

The applicant will now address each of the issues raised in the outstanding Office Action.

Objections

Figure 3 is objected to because the MATCH FOUND (324) test in Figure 3 results in different steps (326 and 328) in response to a NO answer. Figure 3 has been amended to correct this issue. The amendment is supported, for example, by paragraph [0034] of the specification. A corrected drawing sheet in accordance with 37 C.F.R. § 1.121(d) is filed herewith. Therefore, the applicant respectfully requests that this objection be withdrawn.

Figure 4 is objected to as failing to comply with 37 C.F.R. § 1.84(p)(5) because it does not include reference

sign 400 mentioned in the description. Figure 4 has been amended to correct this issue. A corrected drawing sheet in accordance with 37 C.F.R. § 1.121(d) is filed herewith. Therefore, the applicant respectfully requests that this objection be withdrawn.

Claims 16, 17, 42 and 43 were found to include allowable subject matter by the Examiner but are objected to as being dependent upon a rejected base claim. Claims 16 and 17 depend, indirectly, from claim 1, and claims 42 and 43 depend, indirectly, from claim 38. Since, however, claims 1 and 38 are allowable over the cited art for the reasons discussed below, these claims have not been rewritten in independent form at this time.

Rejections under 35 U.S.C. § 102

Claims 1, 10, 12, 19, 27, 36, 38 and 45 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,541,927 ("the Kristol patent"). The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Independent claims 1 and 27, as amended, are not anticipated by the Kristol patent because the Kristol patent does not teach acts of (or means for) accepting status information from at least two different protocols and composing a message including the status information from the at least two different protocols.

In rejecting original claims 1 and 27, the Examiner cites column 9, lines 30-33 and lines 39-45 of the Kristol patent as teaching accepting status information

from at least two protocols and composing a message including the status information. (See Paper No. 20070809, page 3.) The applicant respectfully disagrees.

Embodiments consistent with the claimed invention may be used to provide a "liveness detection mechanism" for quickly detecting a down protocol used by nodes on a network by exchanging messages which include aggregated protocol and/or forwarding liveness ("APFL") status information with neighboring nodes. The APFL status information contains the status of least two protocols used by the nodes. This feature provides several advantages. As the specification states:

hello messages [in conventional liveness detection mechanisms] often carry more than just liveness information, and can therefore be fairly large and require non trivial computational effort to process. Consequently, running fast liveness detection between a pair of neighbor nodes, **each running multiple protocols**, can be expensive in terms of communications and computational resources required to communicate and process the frequent, lengthy messages for liveness detection. [Emphasis added.]

Paragraph [0009]. These conventional liveness detection mechanisms require separate hello messages for each different protocol run on the node. The ability to send **aggregated protocol status information** overcomes this issue as follows:

By providing a small number of bits per protocol, which relay a simple set of information (such as up, down, not reporting, restarting, etc.), a

compact, simple message may be used for conveying liveness related information. Since the messages are small **and can aggregate information from more than one protocol, they can be sent frequently.** [Emphasis added.]

Paragraph [0086].

By contrast, the Kristol patent generally concerns a method for overcoming the "acknowledgement implosion" problem **when multicasting** blocks of data to multiple nodes. The Kristol patent attempts to solve this problem using a method of transmitting blocks of information from a source to a set of destinations, where each destination is assigned to a set of intermediary local exchanges ("LE"). The LEs are interconnected using a backbone network apparently running the same protocol. (See, e.g., column 3, lines 38-40.) Each LE sends a consolidated status signal to the source which indicates a reception status of the blocks data sent for each of the destinations assigned to the LE, and retransmits those blocks which were not received. (See column 2, lines 23-50.) That is, **the consolidated status signal** the Kristol patent merely **indicates which blocks of the data have been received, and therefore which blocks, if any, need to be retransmitted.** (See, e.g., 610 of Figure 6 and TABLE 1 of the Kristol patent.) The consolidated status signal does not contain **information regarding the status of the underlying protocol used by the backbone network.** Furthermore, the Kristol patent does not teach using at least two different protocols, accepting the status information from at least two different protocols, and composing a message including the status of the at

least two different protocols being used by the nodes on the network.

As can be appreciated from the foregoing, the Kristol patent does not teach (e.g., a liveness detection mechanism) accepting status information from at least two different protocols (e.g., which indicates whether the at least two protocols are up, down, not responding, or restarting) and composing a message including the status information from the at least two different protocols. Thus, independent claims 1 and 27, as amended, are not anticipated by the Kristol patent for at least this reason. Independent claims 12, 19, 27, 38 and 45, as amended, are similarly not anticipated by the Kristol patent. Furthermore, since claim 10 depends from claim 1, and claim 36 depends from claim 27, these claims are similarly not anticipated by the Kristol patent.

Rejections under 35 U.S.C. § 103

Claims 2-7, 11, 13-15, 20, 21, 28-33, 37, 39-41, 46 and 47 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Kristol patent in view of Internet-Draft Fast Liveness Protocol published on February 2000 by Sandick, et al ("the Sandick paper"). The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Claims 2-7 and 11 depend, either directly or indirectly, from claim 1, claims 13-15 depend, either directly or indirectly, from claim 13, claims 20 and 21 depend from claim 19, claims 28-33 and 37 depend, either directly or indirectly, from claim 27, claims 39-41

depend, either directly or indirectly, from claim 38, and claims 46 and 47 depend, either directly or indirectly, from claim 45. As such, these claims are not rendered obvious by the Kristol patent and the Sandick paper since the proposed combination would not compensate for the deficiencies of the Kristol patent with respect to claims 1, 12, 19, 27, 38, and 45 discussed above, regardless of the scope of the purported teachings of the Sandick paper, and regardless of the presence or absence of an obvious reason to combine these references. Consequently, claims 2-7, 11, 13-15, 20, 21, 28-33, 37, 39-41, 46 and 47 are not rendered obvious by the cited references for at least the reasons discussed above with reference to claims 1, 12, 19, 27, 38, and 45.

Claims 8, 9, 34 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Kristol patent in view of Internet-Draft IPv6 Over ATM Networks on October 17, 1998 by Armitage , et al ("the Armitage paper"). The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Claims 8 and 9 depend, either directly or indirectly, from claim 1, and claims 34 and 35 depend, either directly or indirectly, from claim 27. These claims are not rendered obvious by the Kristol patent and the Armitage paper since the proposed combination would not compensate for the deficiencies of the Kristol patent with respect to claims 1 and 27 discussed above, regardless of the scope of the purported teachings of the Armitage paper, and regardless of the presence or absence

of an obvious reason to combine these references. Consequently, claims 8, 9, 34 and 35 are not rendered obvious by the cited references for at least the reasons discussed above with reference to claims 1 and 27.

Claims 18 and 44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Kristol patent, and the Sandick paper, in view of U.S. Patent 5,349,642 ("the Kingdon patent"). The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Since claims 18 and 44 depend, indirectly, from claims 12 and 38, respectively, they are not rendered obvious by the Kristol patent, the Sandick paper, and the Kingdon patent since the proposed combination would not compensate for the deficiencies of the Kristol patent with respect to claims 12 and 38 discussed above, regardless of the scope of the purported teachings of the Sandick paper and the Kingdon patent, and regardless of the presence or absence of an obvious reason to combine these references. Consequently, claims 18 and 44 are not rendered obvious by the cited references for at least the reasons discussed above with reference to claims 12 and 38.

Claims 22-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Kristol patent in view of U.S. Patent Application Publication 2003/0061345 ("the Kawasaki publication") and U.S. Patent Application Publication 2003/0137930 ("the Futernik publication"). The applicant respectfully requests that the Examiner

reconsider and withdraw this ground of rejection in view of the following.

Independent claim 22, as amended, is not rendered obvious by the cited references since the cited references do not teach an indication, for at least two different protocols **of a node**, of a state of each of the at least two protocols. In rejecting original claim 22, the Examiner cites Figure 4(B) of the Kawasaki publication as disclosing an indication, for at least two protocols of a node, of a state of each of the at least two protocols. (See Paper No. 20070809, page 17.) The applicant respectfully disagrees.

Even if Figure 4(B) of the Kawasaki publication depicts a table which can store the status of two protocols, it does not teach the two protocols belong to **a node**. In other words, the embodiment shown in Figure 4(B), and discussed in paragraph [0077], shows only one protocol per node. (The applicant assumes that the different System IDs shown in Figure 4(B) indicate two separate systems.) As such, the Kawasaki publication does not teach an indication, for at least two different protocols **of a node**, of a state of each of the at least two protocols.

Thus, independent claim 22, as amended, is not rendered obvious by the Kristol patent, and the Kawasaki and Futernik publications, for at least this reason. Since claims 23-26 depend, either directly or indirectly from claim 22, these claims are similarly not rendered obvious by the cited references.

New Claims

New method claim 48 depends from claim 1 and further recites that the status information is local protocol status information. This new claim is supported, for example, by paragraph [0032].

New method claim 49 depends from claim 1 and further recites that the status information is local status information and that each of the at least two different protocols is bring run locally on the node. This new claim is supported, for example, by paragraph [0032].

Conclusion

In view of the foregoing amendments and remarks, the applicant respectfully submits that the pending claims are in condition for allowance. Accordingly, the applicant requests that the Examiner pass this application to issue.

Any arguments made in this amendment pertain **only** to the specific aspects of the invention **claimed**. Any claim amendments or cancellations, and any arguments, are made **without prejudice to, or disclaimer of**, the applicant's right to seek patent protection of any unclaimed (e.g., narrower, broader, different) subject matter, such as by way of a continuation or divisional patent application for example.

Respectfully submitted,

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CERTIFICATE OF MAILING under 37 C.F.R. 1.8(a)

I hereby certify that this correspondence is being deposited on **December 13, 2007** with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


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FIGURE 3A

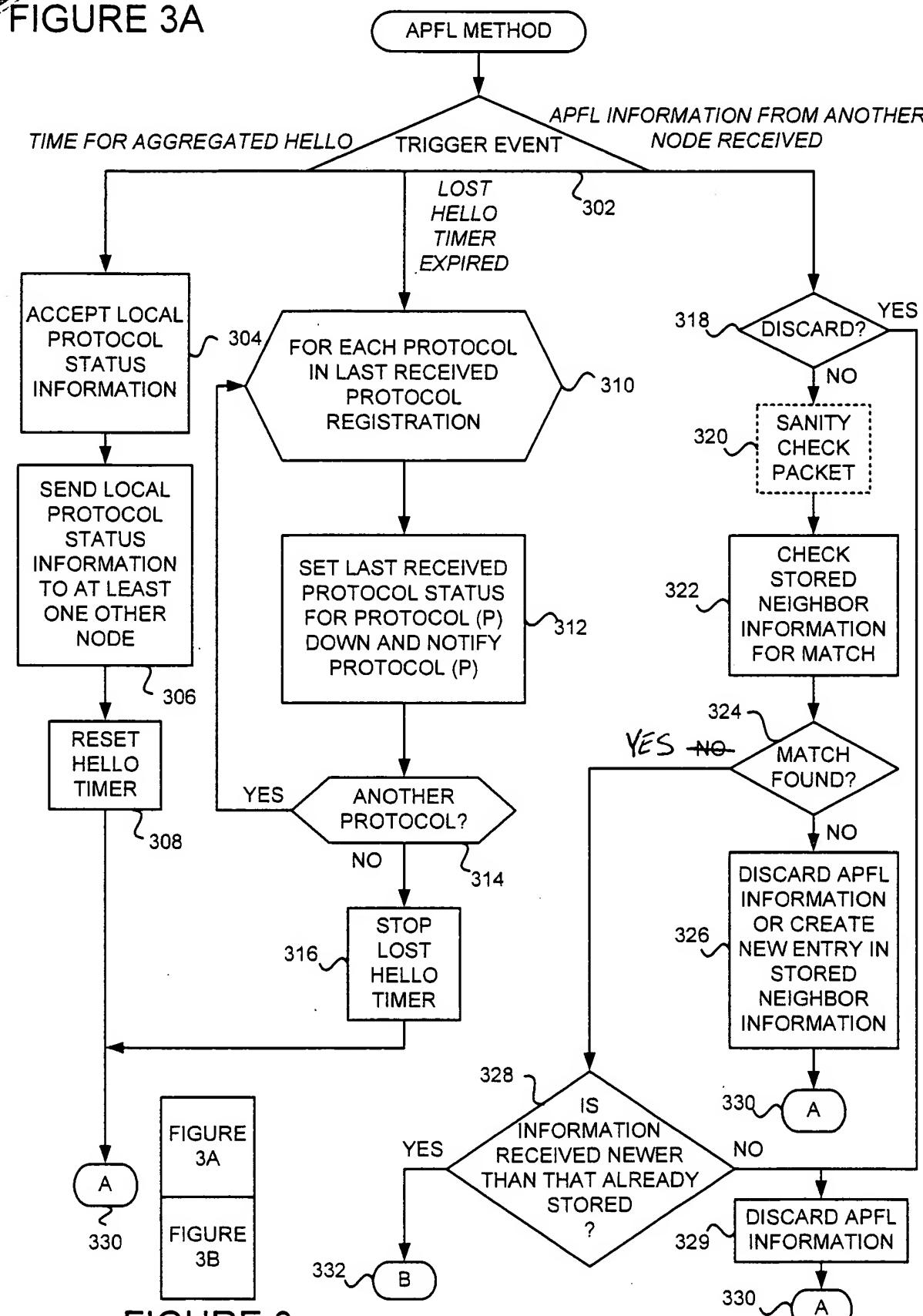


FIGURE 3

FIGURE 4

